

CLAIMS

1. In a point to multipoint network operating according to a DOCSIS-based MAC protocol, a method for operating a subscriber unit, said method comprising:

5 transmitting data to a central access point during a directed grant slot allocated to said subscriber unit;

monitoring MAP messages broadcast by said central access point to detect acknowledgment of receipt of said data;

10 if no acknowledgment of receipt is indicated by said MAP messages, retransmitting said data.

2. The method of claim 1 wherein non-receipt is indicated by said MAP messages if a MAP message is received with a timestamp later than said directed grant slot and no acknowledgment is received.

15 3. The method of claim 1 further comprising:

after transmitting said data to said central access point, storing said data in an ARQ buffer for possible retransmission.

20 4. The method of claim 3 wherein storing said data comprises storing said data only if communication of said data is delay tolerant.

9. The apparatus of claim 8 wherein non-receipt is indicated by said MAP messages if a MAP message is received with a timestamp later than said directed grant slot and no
5 acknowledgment is received.

10. The apparatus of claim 8 wherein said ARQ buffer stores said data only if communication of said data is delay tolerant.

10 11. In a point to multipoint network operating according to a DOCSIS-based MAC protocol, apparatus for operating a central access point, said apparatus comprising:
a physical layer transceiver that exchanges information signals with a subscriber unit via a transmission medium; and
a MAC layer processor that receives data during a directed grant slot allocated to
15 said subscriber unit via said physical layer transceiver and that broadcasts a MAP message including an acknowledgment of receipt of said data.

12. The apparatus of claim 11 wherein said acknowledgment is included only if said data is delay tolerant.

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13. The apparatus of claim 11 wherein said MAC layer processor, prior to said directed grant slot, broadcasts another MAP message allocating said directed grant slot to said subscriber unit.

code that causes, if no acknowledgment of receipt is indicated by said MAP messages, retransmission of said data; and
a computer-readable medium that stores the codes.

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17. The computer program product of claim 16 wherein non-receipt is indicated by said MAP messages if a MAP message is received with a timestamp later than said directed grant slot and no acknowledgment is received.

10 18. The computer program product of claim 16 further comprising:
code that causes, after transmission of said data to said central access point, storing of said data in an ARQ buffer for possible retransmission.

15 19. The computer program product of claim 18 wherein said code that causes storing of said data causes storing of said data only if communication of said data is delay tolerant.

20 20. In a point to multipoint network operating according to a DOCSIS-based MAC protocol, a computer program product for operating a central access point, said computer program product comprising:

code that causes reception of data from a subscriber unit during a directed grant slot allocated to said subscriber unit;

code that causes broadcasting of a MAP message including an acknowledgment of receipt of said data; and

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a computer-readable storage medium that stores the codes.

21. The computer program product of claim 20 wherein said acknowledgment is
5 included only if said data is delay tolerant.

22. The computer program product of claim 20 further comprising:
code that, prior to said directed grant slot, causes broadcasting of another MAP
message allocating said directed grant slot to said subscriber unit.

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